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ABSTRACT

This study explored the effects of three teaching approaches on the task performance, motivation, and private speech (self-talk) of low-income Latino preschoolers. The three approaches varied in terms of teacher-imposed structure and child autonomy (teacher-directed, scaffolding, child-centered). Sixty-one preschoolers were seen individually as they completed a Lego block construction task before and after participating in one of the three teaching conditions. Measures of private speech, motivation (affect and persistence), and task performance were coded from videotapes. Differential effects on children's motivation and learning were found for the three teaching conditions, but no differences were observed for private speech. The scaffolded group obtained the highest task performance scores from pre- to posttest, and the teacher-directed children, the second highest. However, the child-centered group showed a modest decrease in performance over time. Scaffolded children were visibly happiest at the beginning of the posttest task, whereas teacher-directed children were the least happy. Although children became more frustrated and sad as the posttest wore on, child-centered children displayed the most negative affect, and scaffolded children, the least. Children in the scaffolded and teacher-directed conditions showed increases in task persistence from pre- to posttest, whereas those in the child-centered group showed a decrease over time in persistence. Findings suggest that learning and motivation among low-income, Latino preschoolers are best promoted by some degree of teacher-provided structure, as opposed to a rather hands-off child-centered approach. (Author/KB)

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How Much Teacher Direction is Best for Promoting Low-Income Latino Preschoolers' Learning, Motivation, and Private Speech? A Controlled Experiment

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ABSTRACT

This study explored the effects of three teaching approaches which varied in terms of teacher-imposed structure and child autonomy ("teacher-directed", "scaffolding", "child-centered") on the task performance, motivation, and private speech (self-talk) of low-income, Latino preschoolers. Sixty-one preschoolers were seen individually as they completed a Lego block construction task before and after they were randomly assigned to participate in one of the three teaching conditions. Measures of private speech, motivation (affect and persistence), and task performance were coded from videotapes. Differential effects on children's motivation and learning were found for the three teaching conditions, but no differences were observed for children's private speech. The scaffolded group obtained the highest task performance scores from pre- to posttest and the teacher-directed children the second highest. However, the child-centered group showed a modest decrease in performance over time. Scaffolded children were visibly happiest at the beginning of the posttest task whereas teacher-directed children were the least happy. Although children became more frustrated and sad as the posttest wore on, child-centered children displayed the most negative affect and scaffolded children the least. Children in the scaffolded and teacher-directed conditions showed increases in task persistence from pre- to posttest whereas those in the child-centered group showed a decrease over time in persistence. Results suggest that learning and motivation in low-income, Latino preschoolers are best promoted by providing some degree of teacher-provided structure/direction, as opposed to a rather hands-off "child-centered" approach. Joint collaboration with moderate and contingent amounts of teacher assistance/direction (scaffolding) and structured (teacher-directed) instruction appear to have specific motivational vs. performance tradeoffs associated with them.

INTRODUCTION/RATIONALE

- Latinos are the fastest-growing minority group in the U.S. (26% of the Head Start population) and at significant risk for school failure and drop out.

- Although early educational interventions, such as Head Start have been shown to make an important difference in the lives of educationally at-risk students, important questions still remain as to which type of educational programs lead to which outcomes for which type of children.

- Some researchers find that low-income and minority students are best served by early childhood programs with high levels of teacher direction and instruction (Gersten, Darch, & Gleason, 1988) whereas others advocate low levels of teacher structure and control (Schweinhart & Weikart, 1983). Further, teacher-directed early classrooms may foster learning yet hinder academic motivation and self-esteem, whereas child-centered early classrooms may promote positive motivational outcomes but hamper academic learning among minority children (Stipek, Feiler, Daniels, & Milburn, 1995).

- Researchers have typically examined outcomes and programs at a global level. Microanalytic analysis under controlled experimental conditions may allow for better identification of the differential effects of different teaching styles.

- Neo-Vygotskian theory predicts that children's learning, motivation, and language development are maximized under conditions of moderate and contingent levels of adult guidance/assistance (scaffolding) (Berk & Winsler, 1995).

- The purpose of the present study was to examine the differential effects of systematically varying teacher direction and child autonomy on low-income Latino preschoolers' learning, motivation, and private speech.

HYPOTHESES

1. Children in the scaffolded condition will show the highest scores on task performance (learning), the most positive affect and persistence (motivation), and the most advanced private speech patterns after the teaching session.

2. Children in the teacher-directed condition will show the second highest scores on task performance, the least positive affect and persistence, and the second most advanced private speech patterns after the teaching session.

3. Children in the child-centered condition will show the lowest scores on task performance, the second most positive affect and persistence, and the least advanced private speech patterns after the teaching session.

METHOD

PARTICIPANTS

- Sixty-one preschoolers (M age = 58.4 mos, 45.9% Male)
- 62% El Salvador, 25% Central America, 13% South America
- Low SES (as determined by eligibility for subsidized preschool)
- Five preschool centers in the Washington, D.C. metropolitan area

TASK/SETTING

- Duplo Lego Construction

(Child replicated a 41-piece structure, according to an available prebuilt model for ten minutes both before and after the teaching session)

OVERVIEW OF DATA COLLECTION

Pretest:	***Teaching Condition:***	***Posttest:***
Duplo Lego Task Model #1 10 mins. Videotapes Coded for Motivation And Private Speech	Duplo Lego Task Model #2 15 mins. Random Assignment: Teacher-directed (n = 20) Scaffolding (n = 21) Child-centered (n = 20)	Duplo Lego Task Model #1 10 mins. Videotapes Coded for Motivation And Private Speech

MEASURES

- **Task Performance/Learning** (Inter-rater reliability = .99):

  Children's Duplo Lego structures were scored according to correct color, size, and location of block as compared to the 41-piece pre-built model - out of a possible 115 points.

- **Motivation:**

  - **Affect:**

  Happiness (Inter-rater reliability = .84)
  Sadness (Inter-rater reliability = .80)
  Anger/Frustration (Inter-rater reliability = .87)

  Children's affective states (Happiness, Sadness, Anger/Frustration) were rated from videotaped recordings during the pre- and posttest task performance sessions using a global 1-5 scale for every 1-minute interval; the three affective states were rated according to frequency, intensity, and duration of children's emotions.

  - **Persistence** ("On-Task" Behavior) (Inter-rater reliability = .91):

  Percentage of time children spent working on the pre- and posttest Duplo Lego structures was calculated; Children were on-task whenever they looked at the prebuilt model and their accompanying efforts served to make a replica.

▪ Private Speech

Unit of Analysis = Speech Utterance

(Utterance = complete sentence, independent clause, conversational turn or any segment of speech separated from another by 3 seconds or more)

Private Speech vs. Social Speech (Inter-rater reliability = .78)

Speech is coded as social only if there is a glance at experimenter, conversational turn, direct answer to adult question, touch, or use of a pronoun/name. Otherwise, speech is coded as private.

Three Private Speech Coding Systems:

(I) Content/Function (Inter-rater reliability = .84)
(Adapted from Winsler, 1998)

1) **Word play, noises, nonwords, singing, humming**
(Irrelevant singing, Do dees, Hums, Mouth noises, Clicks mouth/tongue)

2) **Expression/exclamation of affect/enjoyment/frustration**
A. Positive - "I really like this." "I am having fun." "Yeah!"
B. Negative - "I hate this." "Oh no!" "Shoot!" "Oops!" "Uh-oh"
C. Other/Neutral - "Oh!" "Hm!" "Uh!" "Ooh!" "Hey!"

3) **Self-evaluation/description of self**
"I" statements reflecting the child's evaluation/description of him-/herself or his/her own behavior.
A. Positive - "I'm doing a nice job." "I was right."
B. Negative - "I'm not good at this." "I'm wrong."
C. Other - "I cannot find another square." "I think that's all."

4) **Evaluation/description of the task or the environment**
A. Positive - "This is easy." "This is fun." "Good!"
B. Negative - "This is hard." "There is one."
C. Other - "Here is what I need."

5) Self-/Task-Regulatory Utterances

A. Monitoring of Task Progress - "I finished the red." "This is the last one."
B. Statements about Generalized Rules and Procedures - "It goes right there."
C. Plans/Hypothetical Reasoning - "Now I need a red one."
D. Questions - "Where's the yellow?" "What's next?"
E. Commands - "Think." "Wait a minute." "Put the red block over there."
F. Transitional Statements - "Now..." "And then..." "And..." "Um.."

6) Other (None of the above)

(II) Task-Relevance/Internalization (Inter-rater reliability = .91)

(Berk & Potts, 1991, Winsler, 1998)

Level 1: Task-Irrelevant Private Speech

a) Word play and repetition
b) Task-irrelevant and affect expression
c) Comments to absent, imaginary or nonhuman others

Level 2: Task-Relevant Private Speech

a) Describing one's activity or the task
b) Plans and self-guiding comments
c) Task-relevant questions and answers
d) Task-relevant affect expression

Level 3: Partially-Internalized Inner Speech

a) Inaudible mutterings
b) Whispers
c) Silent verbal lip movements

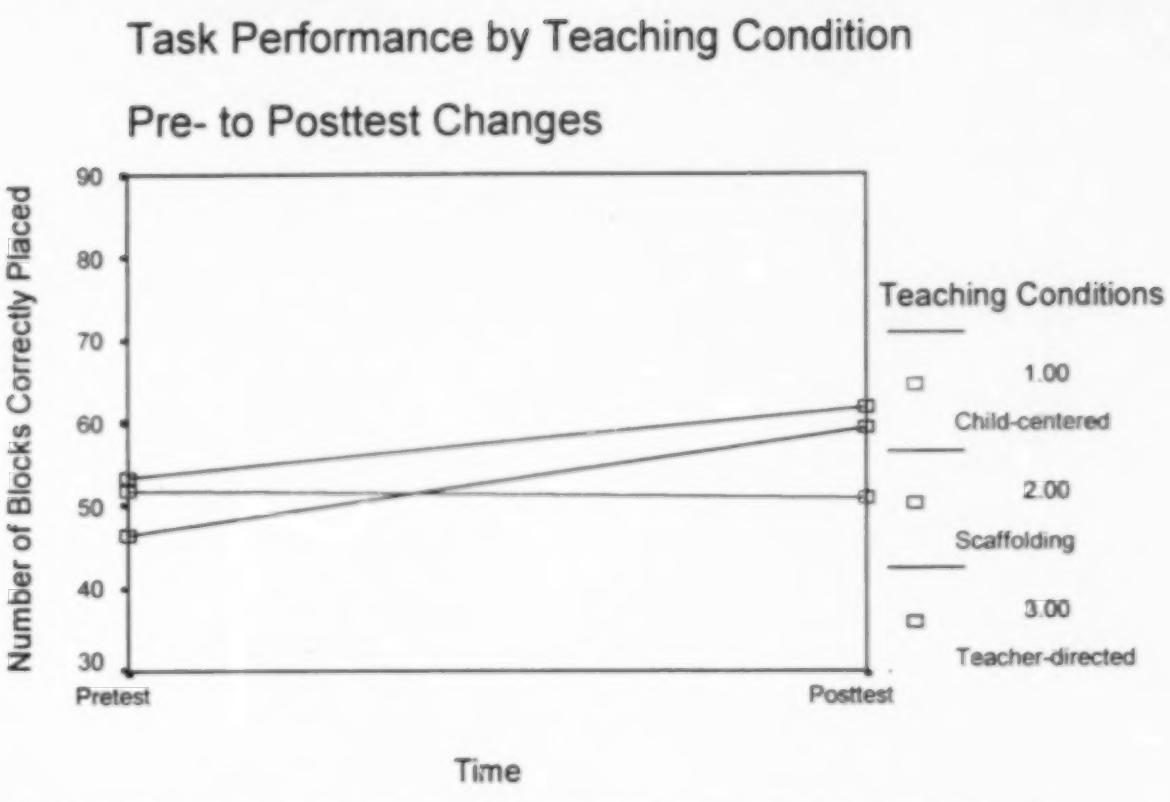
(III) Fragmented vs. Complete Utterances (Inter-rater reliability = .86)

(Feigenbaum, 1992; Goudena, 1992; Winsler, 1998)

(Complete = grammatically intact with both subject and predicate - includes one word questions, answers, and imperatives)

RESULTS

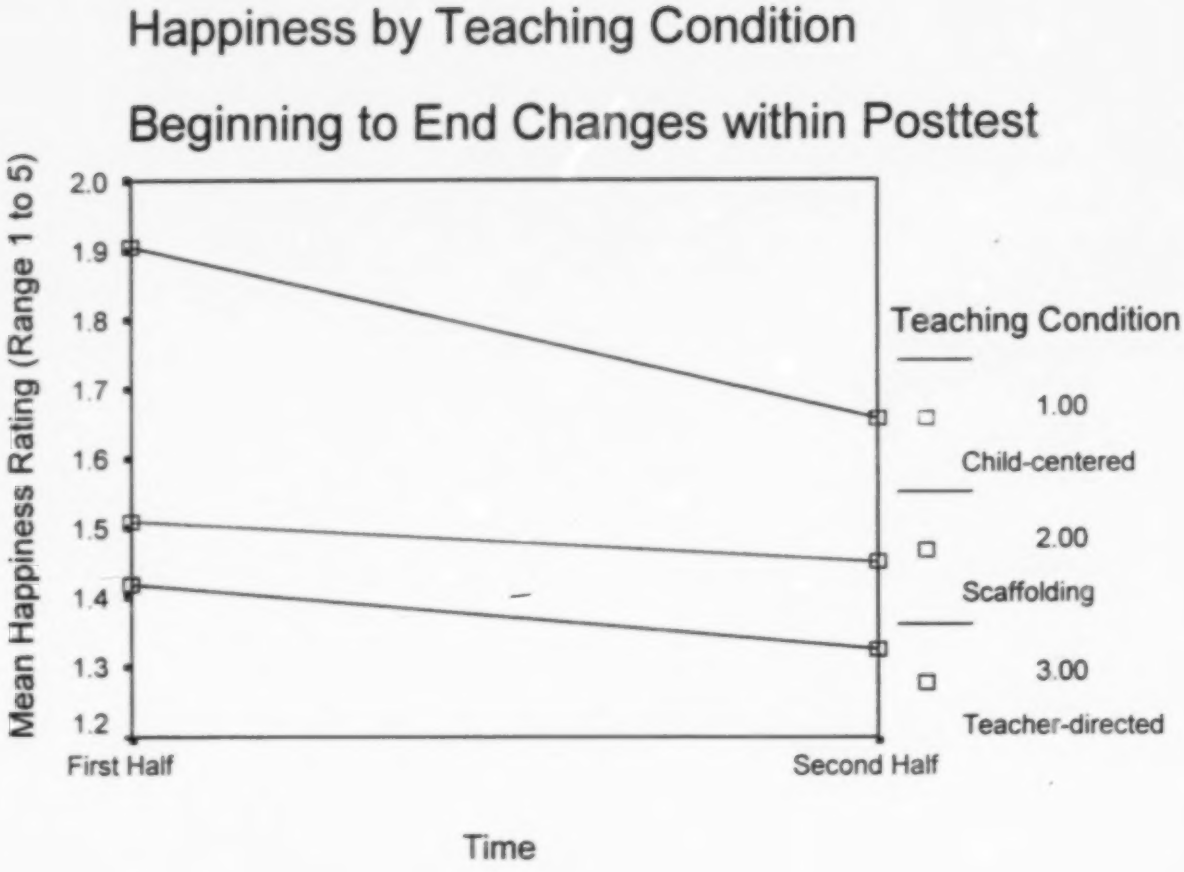
1. Task Performance:



- Children's task performance generally improved after the teaching session.
- The scaffolded children obtained the highest score at posttest, the teacher-directed group the second highest, and the child-centered children the lowest (non-significant).
- While children in the scaffolded and teacher-directed conditions showed significant increases in performance after the teaching session, those in the child-centered condition showed a modest, but non-significant decrease.

2. Motivation:

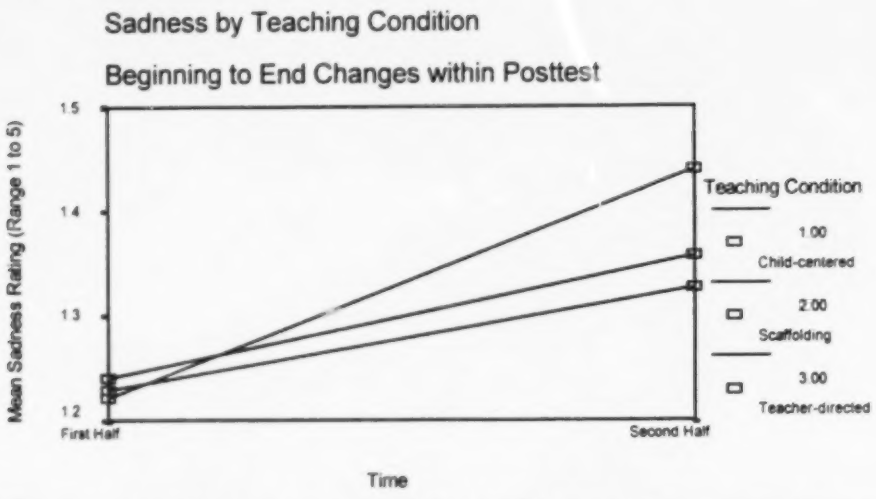
Affect - Happiness



❖Scaffolded children displayed the most positive affect and teacher-directed children the least at the beginning of the task performance posttest. Overall, happiness averaged across the whole posttest session showed no significant group differences.

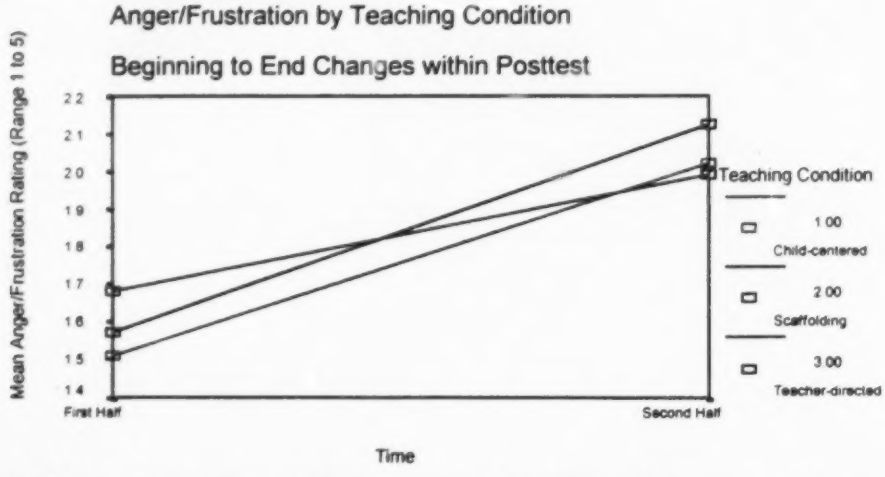
2. Motivation (continued):

Affect - Sadness



❖ All children generally became slightly sadder as the posttest wore on. Children in the child-centered condition displayed the highest number of visibly sad behaviors and those in the scaffolded group the lowest (non-significant).

Affect - Anger/Frustration



❖ All children became slightly more frustrated/angry as the posttest wore on. Children in the teacher-directed group exhibited the highest number of visibly frustrated behaviors and those in the scaffolded group the lowest (non-significant).

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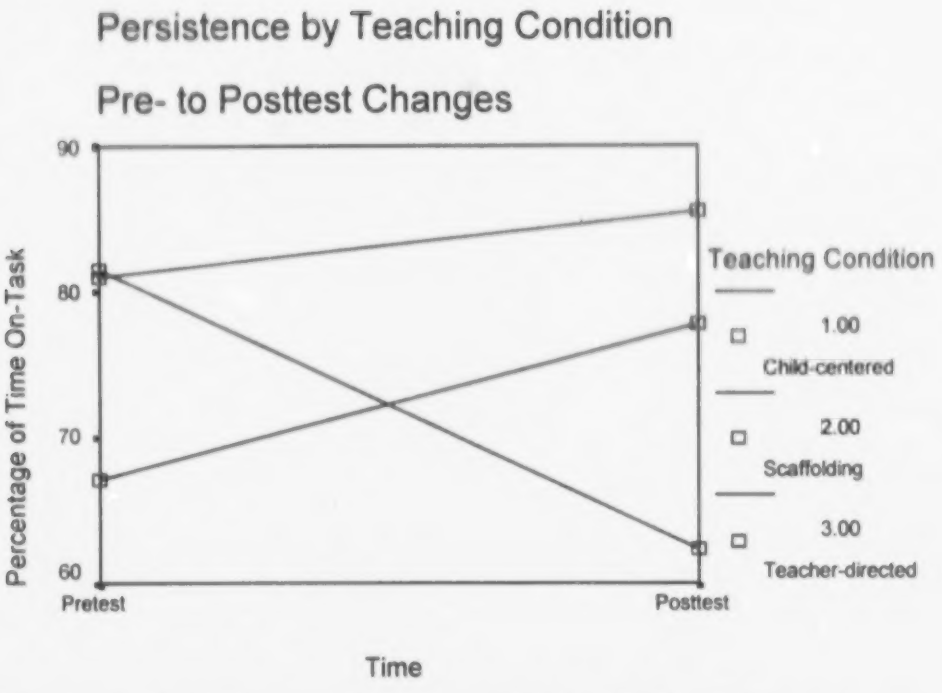
3. Persistence:



- Although child-centered and scaffolded children showed similarly high levels of on-task behavior at the pretest compared to the teacher-directed group, the persistence level of child-centered children decreased significantly after the teaching session whereas that of the other two groups increased.

- The scaffolded group obtained the highest persistence rating at posttest, which was slightly higher than that of the teacher-directed group.

4. Private Speech:

- Preliminary analyses revealed no significant differences in children's private speech as a function of teaching condition. However, additional exploration and analyses are warranted given the generally low incidence of private speech observed in these children and the very large variances across children in frequency of private speech utterances.

CONCLUSIONS/IMPLICATIONS

1. The results suggest that learning in low-income, Latino preschoolers was facilitated by some degree of teacher structure and control. Moderate levels of structure and control that were contingent on a child's functioning level (i.e., scaffolding) appear to be the most conducive to performance.

2. Scaffolding also resulted in the most positive affect whereas teacher-directed and child-centered teaching increased children's negative affect after the experimental session. This finding is in partial support of the hypothesis that children's motivation is dampened in highly structured and controlled classrooms, but runs counter to the suggestion that child-centered curricula are highly motivating (Stipek et al., 1995).

3. Some degree of teacher structure and control was good for children's persistence over time. It would appear, however, that minimal teacher-imposed direction and structure (i.e., child-centered) negatively affects children's persistence.

4. Other measures of children's motivation, private speech, and language competence as well as parenting and classroom teaching variables were also collected, but they have not yet been analyzed. It will be important to examine these other variables that may serve to moderate the effects of teaching approach on learning, motivation, and private speech.

5. Early childhood programs that interpret "child-centered" as minimal teacher involvement or instructional assistance may serve the needs of low-income, Latino children better by slightly increasing their degree of teacher involvement.

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